

IN THE CLAIMS:

- 1 1. (Cancelled)
- 1 2. (Currently Amended) The conformable fuel cell as defined in claim 1-6 wherein
2 said current collectors at each of said anode aspect and said cathode aspect apply ade-
3 quate compression effectively over the active area of the membrane electrolyte.
- 1 3. (Original) The conformable fuel cell as defined in claim 2 wherein said compres-
2 sion applied to said active area is equal to or greater than about 100 psi.
- 1 4. (Currently Amended) The conformable fuel cell as defined in claim 1-6 further
2 comprising management of water from cathode to anode such that water management is
3 achieved within the fuel cell.
- 1 5. (Currently Amended) The conformable fuel cell as defined in claim 1-6 wherein
2 said fuel is substantially comprised of at least one of the following: a vapor fuel, a gel
3 fuel, a liquid fuel and combinations thereof.
- 1 6. (Currently Amended) ~~The conformable fuel cell as defined in claim 1 further compris-~~
2 ~~ing~~ A conformable fuel cell, comprising:
3 (A) a membrane electrolyte intimately interfacing with a catalyst layer
4 along each of the membrane's major surfaces being a catalyzed membrane electro-
5 lyte, having an anode aspect and a cathode aspect, and which catalyzed membrane
6 electrolyte is conformable to a plurality of desired shapes;
7 (B) diffusion layers sandwiching said catalyzed membrane electrolyte,
8 said diffusion layers being comprised of materials that are conformable;

9 (C) flexible current collectors coupled with each of said anode aspect
10 and said cathode aspect of said membrane electrolyte;

11 (D) a fuel delivery means coupled with said anode aspect of said mem-
12 brane electrolyte that delivers fuel substantially uniformly to said anode aspect
13 while said fuel cell maintains a desired shape;

14 (E) a conformable fuel cell housing formed from a molded plastic
15 frame that has been formed according to said desired shape, said conformable fuel
16 cell housing maintaining high compression along the active surfaces of the fuel
17 cell;

18 (F) electrical coupling disposed across said anode aspect and said cathode as-
19 pect and having means for connection to an application device being powered by said
20 fuel cell; and

21 (G) a dedicated layer of material that substantially expands upon hydration,
22 thus imparting compression.

1 7-11 (Cancelled)

1 12. (Currently Amended) The conformable fuel cell as defined in claim 4-6 wherein
2 said conformable fuel cell is shaped to conform to one of the following:

3 (A) a body segment; and

4 (B) a contoured wall of an application device; and

5 (C) an exterior housing or an interior volume of an application device.

1 13. (Currently Amended) The conformable fuel cell as defined in claim 4-6 wherein
2 said conformable fuel cell is configured to attach to an article of clothing mechanically.

1 14. (Currently Amended) The conformable fuel cell as defined in claim 1-6 wherein
2 fuel delivery is accomplished from a detachable conduit that connects to said anode as-
3 pect of the fuel cell.

1 15-25 (Cancelled)

2 26. (Currently Amended) ~~The conformable fuel cell as defined in claim 1 further~~
3 ~~comprising A conformable fuel cell, comprising:~~

4 (A) a membrane electrolyte intimately interfacing with a catalyst layer
5 along each of the membrane's major surfaces being a catalyzed membrane electro-
6 lyte, having an anode aspect and a cathode aspect, and which catalyzed membrane
7 electrolyte is conformable to a plurality of desired shapes;

8 (B) diffusion layers sandwiching said catalyzed membrane electrolyte,
9 said diffusion layers being comprised of materials that are conformable;

10 (C) flexible current collectors coupled with each of said anode aspect
11 and said cathode aspect of said membrane electrolyte;

12 (D) a fuel delivery means coupled with said anode aspect of said mem-
13 brane electrolyte that delivers fuel substantially uniformly to said anode aspect
14 while said fuel cell maintains a desired shape;

15 (E) a conformable fuel cell housing formed from a molded plastic
16 frame that has been formed according to said desired shape, said conformable fuel
17 cell housing maintaining high compression along the active surfaces of the fuel
18 cell;

19 (F) electrical coupling disposed across said anode aspect and said cathode as-
20 pect and having means for connection to an application device being powered by said
21 fuel cell; and
22 (G) a dedicated layer of material that substantially expands upon exposure to
23 fuel, thus imparting compression.

1 27. (Cancelled)

1 28. (Currently Amended) The conformable fuel cell of claim 46, wherein the con-
2 formable fuel delivery means comprises a layer of gelled fuel.

1 29. (Currently Amended) The conformable fuel cell of claim 46, wherein the con-
2 formable fuel delivery means is affixed to the anode aspect of the fuel cell.

1 30. (Cancelled)